INDEPENDENT RATE REVIEW
OF MANITOBA TELEPHONE SYSTEM
RATING OBJECTIVES, PRINCIPLES, AND TARIFFS

INFO PRO

October 1986

TABLE OF CONTENTS

		PAGE
1.	BACKGROUND	1
2.	AREAS STUDIED	3
3.	SITUATION ANALYSIS	5
4.	ASSESSMENT	25
5.	SUMMARY OF MAJOR CONCLUSIONS AND OTHER FINDINGS	34

APPENDICES

I RATE PRINCIPLES AND OBJECTIVES OF MTS

II COMPARATIVE RATES OF MTS AND OTHER CANADIAN TELCOS

III CONTRIBUTION TEST FOR BASIC TOLL, LOCAL, TERMINAL, AND NON BASIC SERVICES

IV MTS LOCAL AND TOLL COSTING REPORT

V REVENUES PER TERMINATING LINE, BY RATE GROUP, REGION AND CUSTOMER TYPE

VI MONTHLY CONTRIBUTION OF AVERAGE TELEPHONE TERMINATING LINE

VII BASIC TELEPHONE PENETRATION RATES FOR CANADA BY PROVINCE

VIII LONG DISTANCE CALLING PATTERNS IN MANITOBA FOR BUSINESS AND RESIDENCE CUSTOMERS

IX SUMMARY OF EXTENDED AREA SERVICES OFFERED BY CANADIAN TELCOS

1. BACKGROUND

On March 27, 1986, The Public Utilities Board of Manitoba issued Order of the Board No. 59/86. This Order contained the following recommendation:

> "MTS engage an outside independent consultant to conduct a review of the appropriateness of MTS's rating philosophy and its resulting General Tariff rate structure."

In response to the Board's recommendation MTS contracted with INFOPRO a Division of Bell Canada to conduct the review.

The terms of reference were as follows:

Terms of Reference for an Independent Review
of Manitoba Telephone System Rating Objectives,
Principles, and Tariffs

"The consultant is to carry out an independent review of MTS rating objectives, principles and tariffs. The perspective that the consultant should take is to reflect what is appropriate for Manitoba in light of the current and evolving telecommunications environment. The consultant is to prepare a report of its findings and recommendations for MTS, and to provide expert testimony, as requested, on MTS rates before the Manitoba Public Utilities Board. Specific terms of reference are as follows:

1. Review MTS rating philosophy, rates, direction of rate changes, rate objectives and principles, and the General Tariff rate structure in light of the current and evolving telecommunications environment. This review should include comparisons to other Canadian telephone companies' rates and rating philosophies.

2. Review the equitability of the apportionment of MTS revenue requirement between different types of services and customers. For example the review should evaluate and compare:
   - Impact of tariffs on rural, urban and northern customers.
   - Impact of tariffs on different classes of customers, such as residence and business.
   - Pricing of basic voice telephone services relative to ennanced voice services, and other services.

3. Review MTS criteria and the selection process applicable to MTS' Extended Area Service (EAS) program. The review should include the assessment of rates for comparable services, and identification of alternative rating methods to reduce toll charges for non discretionary calls for rural subscribers.

4. Review the merits of establishing any 'lifeline' services and the associated rates."

The review was initiated July 14, 1986 with a target completion date of October 1, 1986. The consultant analyzed the terms of reference and identified the information requirements for the preparation of this report. The fact finding phase was carried out with the assistance of Manitoba Telephone System staff and various resources within Bell Canada. The information collected was analyzed by the consultant and forms the basis for this report. The consultant is appreciative of the extent of the cooperation of the MTS staff in the fact finding phase and especially of the quantity and quality of data provided in short timeframes. The consultant feels that the type of information gathered by MTS has not only been of use in the preparation of this report, but should also be of benefit to MTS in the longer term if it continues to be developed on an ongoing basis.

2. AREAS STUDIED

In order to fulfill the terms of reference, the consultant reviewed the following:

Rate Principles and Objectives

The stated rate principles and objectives of MTS were reviewed and analyzed. An assessment was made to determine the application of these principles and objectives to the current and historical rate levels and structures. In addition, MTS rate principles, objectives, levels and structures were compared to those of other Canadian telephone companies.

Financial Situation

The current and projected financial situations were assessed in light of the revenue recovery capability of the rate structures and levels.

Cost/Revenue Relationships

Available cost and revenue data from MTS were reviewed and compared to data for other Canadian telcos. The Manitoba revenue/cost data were further analyzed based on segmentation by various customer groupings, e.g. residence, business, etc.

Universal Service

Current telephone penetration levels in Manitoba were identified and related to other Canadian telephone companies. U.S. experience was also reviewed. In this context, the requirement or desirability of a 'lifeline' type service in Manitoba was assessed. Testimony on the subject during the last P.U.B. Hearing was also reviewed.

Extended Area Service (EAS)

The existing MTS criteria for providing EAS were reviewed. Public pressures, particularly those identified during the last P.U.B. rate hearing, were assessed. Criteria and activities in other Canadian Telephone Companies were identified and assessed for feasibility in the Manitoba context.

Competitive Situation

The competitive situation in Manitoba was evaluated in light of the current and evolving telecommunications environment. Competition in other parts of Canada and its possible short and long term effects on MTS were also assessed. Current rate levels and cost/revenue relationships were evaluated in light of existing and potential competition.

3. SITUATION ANALYSIS

Corporate Missions

In assessing the current situation in MTS related to the terms of reference, it was felt that the starting point should be the direction given to MTS by its shareholder. The MTS Corporate Missions as determined by the MTS Board of Directors are:

"1. To offer prompt high quality exchange service to every Manitoban.

2. To offer prompt high quality long distance service to every Manitoban.

3. To ensure that MTS will remain the dominant supplier of telecommunications services in Manitoba no matter how diverse these services may become.

4. To be financially self-sufficient while, at the same time, maintaining a highly acceptable image to the general public of Manitoba.

5. To be a good corporate citizen.

6. To provide an environment which develops employee confidence, proficiency and satisfaction."

The consultant views these Mission statements as the cornerstone for MTS' objectives and operations. Particular focus was placed on those elements of the MTS mission which have the potential to impact on pricing principles, objectives, structure and levels.

Financial Situation

MTS appears to be in serious financial difficulties. As outlined by Mr. G.W. Holland, President of MTS, to the Standing Committee on Public Utilities and Natural Resources in July of this year, the net revenues for the fiscal year 1985-86 "are expected to be in a deficit position by approximately $500,000". Testimony during the last Rate Hearing indicated that rate increases in the area of 11% were required to meet the financial requirements rather than the 3% requested in the application.

Mr. Provencher, Director of Finance of MTS, said at the last P.U.B. Hearing:

> "Proper financial management suggests that MTS should strengthen its financial position in the face of growing external challenges and outstanding liabilities which, over time, will impose increasing burdens on the System. However, in achieving consistency with the provincial government's broad approach, the rate adjustments requested in this application do not allow MTS to meet its financial goals for debt ratio reduction and return on invested capital. Therefore, the intent of this application is to ensure the MTS does not incur a significant deficit in the 1986/87 fiscal year."

Sources of MTS Revenue

Based on 1984/85 data the sources of MTS revenue were $183.3M from long distance services, $118.3M from local services and $24.1M from miscellaneous services. Of these revenues, approximately 36% emanate from out-of-province toll services, rates for which are not solely under the control of MTS.

Rate Principles and Objectives

The rate principles and objectives of MTS, as provided to the consultant, are attached in Appendix I. The rate principles and objectives of MTS are generally similar to those of other Canadian telephone companies. These include the principles of value of service, recognition of cost and Province wide averaging as well as the objectives of universality of basic service, fair and reasonable distribution of charges, and efficient use of company services and resources. MTS principles and objectives are fairly general, as are the principles and objectives of other Canadian telcos, and, as such, are flexible enough to cover changes in the operating environment. For example, MTS advocates the principle of recognition of cost. In a monopoly environment this principle will not be as dominant as it would be in a competitive environment. Conversely, the value of service principle would have greater weight in a monopoly situation, but would still be a valid principle in a competitive situation.

Although MTS' principles and objectives are similar to those of other telcos, there are some differences. These, in part, appear to reflect the mission given to MTS by its Board. The following are examples of these differences which have had a marked effect on MTS rate structures and levels.

> "Intra Manitoba long distance is priced to provide small level of contribution revenue consistent with the rate objectives."
>
> "In-province pricing is considerably below Canadian norms."
>
> "Contribution revenue has allowed as many Manitobans as possible to obtain basic local telephone service at affordable rates by providing a price subsidy from long distance services.
>
> This subsidy arises from the practice followed by Manitoba Telephone System in keeping the price of the local service very low. The balance of the revenue requirement is met through higher prices on more discretionary services such as some of the message toll services. A major source of subsidy is MTS out-of-province long distance services."

The rate structures of most Canadian telcos have resulted in a considerable shortfall in the revenues for local basic service which traditionally has been compensated for by high contribution levels from long distance services. This is also the case in MTS. However, the application of the principles and objectives referenced above has resulted in relatively low prices and smaller contribution levels for Manitoba's intra-province long distance services than for those which are obtained by other Canadian telcos. As a result, MTS has a lower subsidy than other telcos flowing from these services to support basic local service rates which, because of their low level, produce a relatively larger shortfall than is experienced by other Canadian telcos.

Comparative Rates

a) Local and Message Toll Services

Comparative rates of MTS and other Canadian telcos are attached in Appendix II. Out-of-province interexchange rates are basically the same as for other Telecom Canada member telcos. However, the intra-province interexchange rates and local basic service rates are lower than the comparable rates charged by any of the other Telecom Canada telco members. The current residence rate in Winnipeg of $7.75 per month is comparable to rates 15% to 70% higher in other cities of similar size in Canada. Rates for intra-province long distance services in other Telecom Canada member telcos range from 28% to 116% higher than those in Manitoba. Rates could be expected to be higher in provinces having privately-owned telephone companies due in part to tax implications in the private sector. However, looking at the situation in Saskatchewan, which is similar to that of MTS, and applying Sask Tel's rate levels to MTS basic local services and intra-province toll illustrates that these rates would increase MTS revenues by approximately $25M.

An assessment of MTS rates for the terminal category showed that the current levels were meeting their costs and made a contribution to the local service revenue shortfall and to the recovery of common costs. A comparison of MTS rates with other Canadian telcos' rates for similar terminal equipment follows:

b) Extensions, Premium Telephones, and Enhanced Services

MTS rates for extensions and premium telephones were compared to rates for similar services offered by other Canadian telcos (Appendix II). Residence extension rates were comparable to those in other companies. Business extension rates were 20% to 100% higher in the other companies surveyed, while Contempra rates were 10% to 30% higher for most companies than for MTS.

MTS rates for enhanced-type services are substantially lower than those charged by most other Canadian telcos. While Touch Tone rate structures vary from company to company, business Touch Tone rates appear to be from 40% to 100% higher in other companies than they are in MTS. A comparison of rates for Custom Calling Services shows similar differences. It must be pointed out that, for Custom Calling Services, some companies offer package rates which provide a discount compared to a summation of individual service rates. However, MTS rates for comparable combinations of Custom Calling Services are still lower than these package rates.

c) Key Telephone Systems (Old Technology)

Prices for old technology key telephone systems are significantly cheaper in MTS than in Bell Canada. This level of pricing inhibits migration to newer technology and in a noncompetitive environment keeps old equipment as revenue producing.

However, the impact of the following factors has to be considered in evaluating the appropriateness of the MTS pricing approach:

- the possible entry of competitors
- the ability to contain ongoing maintenance costs
- the availability of spare parts
- the costs and operational effectiveness of new technology
  - lower cost hardware
  - lower cost installation
  - lower cost maintenance
  - lower skill requirements for installation of station apparatus

d) New Technology Hybrid Key and PBX Systems

Different Canadian telcos offer various rate structures and have different rating philosophies with regard to new technology hybrid key and PBX systems. While the consultant has not performed an analysis of rates in this area across Canada, a comparison has been made of rates in MTS with rates in Bell

Canada. This comparison reflects some of the differences between offering a service under the monopoly environment in Manitoba versus offering that service in Bell Canada's competitive environment.

MTS offers its new technology hybrid key and PBX systems only under a monthly tariff with three or five year contractual obligations. This requires payment covering, on a bundled basis, the provision of hardware and maintenance for as long as the equipment is in service. Bell Canada offers this equipment under the terms of a Rate Stability Contract, which provides the customer with options of paying for hardware ranging from a single payment plan to a seven-year payment plan. The difference between this approach and the approach used by MTS primarily relates to how capital is recovered. The Rate Stability Contract ensures capital cost recovery on a customer by customer basis through a Tier A rate, with ongoing maintenance and administration costs recovered through a separate pricing component which the customer is required to pay for the length of time the equipment is in service. In contrast, MTS' 3-5 year contract provides MTS with some degree of protection for initial installations. However, there may be some capital exposure during the contract period for total systems or additions which stay in service for the minimum period of time, but over recovery for systems or additions which stay in place over longer periods of time.

While Bell Canada's one time service charges generally recover the costs associated with installation, sales and training, it appears that the service charges currently assessed by MTS recover only a portion of these costs. This could leave MTS financially exposed in situations where the customer retains his system for the minimum contract period.

The consultant has attempted to compare rate levels and costs for similar new technology hybrid key and PBX systems offered by both

MTS and Bell Canada. This comparison has been carried out based on the present value of five years of payments in Bell Canada versus the present value of five years of payments in MTS. Rates were compared using various sized model systems in order to eliminate differences between individual components. In general MTS rates are significantly higher than those of Bell Canada. The gap also tended to widen as the size of the system increased. This is caused by the nature of the MTS rate structure which is station oriented rather than being hardware oriented. In a couple of cases, MTS rates, at the small end of a product's size range, were lower than Bell Canada's. However, as the system size grew, the difference reversed itself with MTS rates exceeding those of Bell Canada.

In addition, MTS charges a premium for system features, for which Bell Canada does not assess additional charges. In most cases these features are part of the basic hardware or system software and as such do not add to the cost of the equipment. The result is to increase the MTS rates in comparison to those charged by Bell Canada.

A significant exception to the above comparison is the Engineered BCS (Business Communication Systems) offered by MTS. Although the different rate structures between MTS and Bell Canada make comparisons difficult, it would appear that the rates for Bell Canada's comparable SL-1 offerings are 30% to 50% higher than MTS' Engineered BCS for similar sizes and types of systems.

A comparison of MTS' Centrex 5 rates with the rates for Bell Canada's comparable Centrex III shows MTS rates to be approximately 12% higher for the basic system in the 3000 line range.

Using available Bell Canada cost data, a proxy cost was developed for some of the model systems. This was done to assess the potential of non compensatory rates in Manitoba. In all cases

examined, except that of Engineered BCS, MTS monthly rates exceeded Bell Canada's costs. While the differences between systems, Bell Canada's cost/revenue relationships for SL-1, and MTS' cost structure make an exact evaluation of Engineered BCS difficult, the consultant feels that the rates for MTS' Engineered BCS are at best marginally compensatory.

Cost/Rate/Revenue Comparisons

MTS provided the following reports to the consultant for the purpose of assessing costs, rates, and revenues:

Appendix III - Contribution Test for Basic Toll, Local, Terminal and Non Basic Services
Appendix IV - MTS Local and Toll Costing Report
Appendix V - Revenues per Terminating Line, by Rate Group, Region and Customer Type.

Although the consultant has not conducted a detailed examination of the costing methodology underlying these reports, a general review has been carried out. The results in these MTS reports are not dissimilar in direction and level from other cost information available from the public record.

Analysis of the data has provided valuable information regarding the contribution of different services and customers to the meeting of MTS' financial needs. In evaluating revenue/cost relationships, the consultant has examined, for various categories, the amount of money spent for each dollar of revenue earned (cost to generate $1.00 of revenues). While this indicator can be influenced by both revenues and costs, the consultant has concentrated his analysis on the impact of revenues. The consultant has not analyzed MTS costs versus costs for other telcos. These data were assessed on the following bases:

a) Major Service Category
b) Long Distance

c) Local Service

d) Apportionment of Revenue Requirement Burden Based on Billing and Contribution by Customer Type

a) Major Service Category

The Contribution Test for Basic and Non Basic Services contained in Appendix III provides cost/revenue relationships for the major MTS service categories based on the 1983-84 Income Statement. These data were similar to information prepared by the federally regulated telcos, B.C. Tel and Bell Canada, for the CRTC Interexchange Competition and Related Issues Hearing in 1984. These data were used to illustrate the shortfall in local revenues and the magnitude of the contribution made by long distance revenues to the recovery of this shortfall.

The significant figures extracted from the data are expressed in terms of cost to generate a dollar of revenue. The figures which follow summarize cost/revenue relationships of broad service categories.

Cost to Generate $1.00 of Revenues

	B.C. Tel	Bell	MTS
Local Service	$2.12	$1.89	$2.54
Long Distance	.36	.31	.48
Terminal	1.16	.95	.68

In addition to these data, the MTS Contribution Test indicated that the unallocated common costs and the shortfall in local revenues were approximately $105M. This shortfall was recovered as follows:

Out-of-Province Long Distance	65%
In-Province Long Distance	10%
Terminal Equipment	15%
Non Basic Service (partially out-of-Province)	10%

b) Long Distance

As stated, the total cost for MTS to generate $1.00 in long distance revenue was $.48. However, due to the low rate levels for intra-Manitoba long distance, there is a significant difference in the cost/revenue relationships between intra-province and inter-province long distance. The MTS Contribution Test shows that for intra-province long distance it costs $ .81 to generate $1.00 of revenue, while for inter-province long distance it costs $.29 to generate $1.00 of revenue.

Information contained in the MTS Local and Toll Costing Report (Appendix IV) provides further cost definition. In the assessment of long distance costs, the report illustrates that cost per unit of distance declines as distance increases. While the rate levels do increase at a decreasing rate with distance, this rate reduction is not proportionate to the related cost reductions thereby indicating a higher contribution emanating from longer distance calls.

c) Local Service

While the results shown in the Contribution Test indicate the shortfall in the Local Service category (i.e. in MTS, it costs $2.54 to generate $1.00 of revenue), data included in the MTS Local and Toll Costing Report provide further definition within this category. While the MTS rates for local service increase for larger rate groups the Costing Report illustrates that the average unit costs decrease.

This is demonstrated below:

EXCHANGE RATE GROUP	RESIDENCE RATE	BUSINESS RATE	COST
	($)	($)	($)
1	4.00	8.25	39.03
2	4.90	8.90	34.07
3	5.15	9.00	30.13
4	5.40	10.60	29.19
5	5.80	11.00	27.38
6	6.15	13.00	25.07
7	6.50	14.55	21.80
9	7.75	20.60	23.09

These cost/rate relationships have a pattern similar to that found in other Canadian telcos; however, the absolute dollar differences between costs and rates are larger in Manitoba due primarily to the low local service rate levels charged by MTS.

d) Apportionment of Revenue Requirement Burden Based on Billing and Contribution by Customer Type

During the Public Hearing on MTS' Rate Application earlier in 1986, several intervenors expressed a belief that rural customers were paying more for telephone services than were urban customers based on the total local and long distance billing per average subscriber. Based on the information in the following table, this was an accurate perception. However, an analysis of billing data of this nature does not recognize the costs of obtaining this revenue.

The data in Appendix V provide revenues by service component, e.g. local, long distance etc. for average telephone terminating lines. These data are provided by class of service, e.g. residence, business, by rate group, by region and on a total system basis.

MONTHLY BILLING
INDIVIDUAL RESIDENCE LINE

RATE GROUP	SYSTEM $	NORTHERN REGION $	EASTERN/WESTERN REGION $
1	49.93	72.36	40.69
2	39.34	69.77	31.40
3	39.84	71.13	35.80
4	29.52	42.09	29.52
5	30.35	57.00	32.54
6	36.24	55.73	31.72
7	35.38		35.38
9	28.39		

MONTHLY BILLING
BUSINESS - SYSTEM

RATE GROUP	SMALL $	LARGE $
1	69.91	266.63
2	63.08	220.96
3	64.62	289.87
4	68.86	182.50
5	70.28	163.50
6	79.70	149.57
7	79.76	107.78
9	86.76	82.50

Utilizing the data in Appendix V, coupled with the cost data provided in the Contribution Test and the Local and Toll Costing Report, it was possible to determine a general indication of the monthly revenue surplus or shortfall on an average telephone terminating line basis. This analysis reflects the costs and revenues for both local service and long distance usage of the average telephone terminating line. The methodology used to develop these figures is described in Appendix VI. While the consultant recognizes that a number of simplifying assumptions have been made, particularly in the area of cost attribution, it is felt that this analysis provides useful insights into the manner in

which MTS' revenue requirement is apportioned over various segments of its subscriber base.

In the individual residence category the results were as follows:

MONTHLY CONTRIBUTION
INDIVIDUAL RESIDENCE LINE

RATE GROUP	SYSTEM	NORTHERN REGION	EASTERN/WESTERN REGION
($)	($)	($)	$
1	-18.60	-12.48	-21.11
2	-14.88	+ 1.53	-18.35
3	- 9.80	+ 1.56	-10.67
4	-12.84	- 4.80	-12.84
5	- 6.99	+ 3.91	- 9.62
6	- 4.04	+ 3.37	- 6.29
7	- .31		- .31
9	- 1.77		

The following demonstrates contribution for business:

MONTHLY CONTRIBUTION (PER LINE)
BUSINESS - SYSTEM

RATE GROUP	SMALL ($)	LARGE ($)
1	-11.21	+ 46.42
2	- 6.53	+ 68.52
3	+ .39	+106.67
4	+ 3.85	+ 57.64
5	+ 7.70	+ 49.74
6	+13.73	+ 43.82
7	+19.01	+ 38.35
9	+34.69	+ 41.38

Competitive Situation

While there is minimal telecommunications service competition in Manitoba at the present time, competition in other parts of Canada can affect MTS through, for example, the Telecom Canada Revenue Settlement Plan. Also, increased competition in other parts of Canada or the United States can result in increased pressures for expansion of competition in the Manitoba services market.

CRTC decisions affecting federally regulated telephone companies have permitted competition for terminal equipment, radio paging services, interconnected public and private mobile services and interexchange services including sharing and resale of these services. Specifically excluded from competition at this time are message toll and WATS services.

Terminal competition was allowed in the federally regulated telcos' territories in 1982. In Bell Canada's case, after the advent of competition in the terminal market, its rates continue to be regulated, while its competitors' prices are not subject to regulation. The effect of competition in this area on the carriers has been not only to reduce total revenues, from this source, but also to reduce the contribution revenues as the competition in the market drives prices closer to cost. Bell Canada's experience in this regard is worth noting. In 1981, prior to full terminal competition, Bell's cost to gain $1.00 in terminal revenues was $.83. In 1984, after three years of competition, the cost to produce $1.00 in revenue had risen to $ .95.

Competition and network interconnection for radio paging and public and private mobile services are not expected to have a major effect on the federally regulated carriers' revenues in the next few years.

The major threat to the Canadian telcos is competition in interexchange services, particularly message toll and WATS services. In all cases, the Telecom Canada telco members' local service portfolios are priced at levels that are substantially below the

corresponding costs. Rates for other services, particularly message toll and WATS, are substantially above costs in order to meet the companies' overall revenue requirements. This rate imbalance poses a threat to the telcos and a lucrative opportunity to would be competitors.

At the present time competition in the interexchange market is limited to private line services and the sharing and resale of the telcos' bulk interexchange services. Competition in the area of private line service with public telephone network access and in the area of sharing and resale is restricted to the territories of federally regulated telcos. Direct competition in message toll and WATS is not allowed at the present time anywhere in Canada but is currently undergoing close scrutiny by the federal regulator.

The issue of MTS/WATS competition surfaced in 1983 when CNCP filed an application with the CRTC for orders to permit the interconnection of CNCP's telecommunications system with the public switched networks of Bell Canada and BC Tel, to enable CNCP to provide long distance public telephone service.

Hearings were held in late 1984 and a decision (CRTC Telecom Decision 85-19) was issued 1985 06 29, denying CNCP's application. It is important to note that the CRTC did not reject the concept of competition per se, but rather CNCP's specific application.

The position of the federally regulated telephone companies during the Hearing was that a severe, and worsening, imbalance in the rates for message toll/WATS and local services vis a vis their respective underlying costs existed. Local rates were heavily subsidized by long distance services. The carriers argued that with or without direct competition in MTS/WATS, immediate steps should be taken to reduce this imbalance by moving the respective rates towards costs.

The CRTC has not accepted the need for rate rebalancing. It was agreed that the lowering of the rates for MTS/WATS was necessary.

The CRTC stated the view that the existing total dollar contribution derived from MTS/WATS rates should, at a minimum, not be permitted to increase. However, due to the difficulty of implementing this plan in the short term, an interim measure was therefore to be employed with the effect of freezing the aggregate level of Bell's and B.C. Tel's MTS/WATS rates subject only to allowing changes in rate structure that would have no aggregate effect on the net MTS/WATS revenue. The federally regulated carriers are expected to file later this year specific rate plans for the first phase of a gradual rebalancing process.

The effects of lower Message Toll/WATS rates for Bell and BC Tel, through competition, rate rebalancing or both, would, in the consultant's view, have significant effects on MTS through the Telecom Canada and adjacent member revenue settlement processes. These effects would be the result of pressures to reduce rates for jointly provided services and also because of changes to the cost patterns of the Telecom Canada members who are involved in competition or rate rebalancing.

Universality

The first corporate mission of MTS is to offer prompt high quality exchange service to every Manitoban. Gordon Holland stated at the February 1986 hearing of the Public Utilities Board of Manitoba, "I believe basic telephone service in this province is a social and economic necessity, yes. I believe it should be accessible to virtually 100% of the population".

In an address given to the Electrical and Electronic Manufacturers' Association of Canada on 20 June 1985 the Honorable Marcel Masse discussed the necessity for universal access to the telecommunications system. He stated that "First and foremost, we must develop a policy which preserves universal access to the telecommunications system at affordable prices. Canadian telephone service to individuals and households is among the very best in the

world. No policy, no matter what its industrial or economic benefits, can be considered acceptable if it means that this essential service will not continue to be universally affordable". He concluded that "...most importantly, our task is to ensure that we continue to have a telecommunications system that spans the farthest reaches of our country -- that is universally accessible, at affordable rates to all of the people of Canada".

With regard to universal telephone service three issues must be considered - availability, affordability and desirability. That is, is telephone service <u>available</u> in all areas served by the System, and can all of the System's subscribers who <u>want</u> it <u>afford</u> basic telephone service?

For an individual, affordability of any good or service is largely a function of disposable income. The individual must determine whether he is able to purchase a specific good/service by implicitly ranking that purchase with all other expenditures desired in that time period (e.g. shelter, food, entertainment, clothing), and then determining whether he has sufficient funds to make the expenditure in question. Naturally, individual expenditure decisions vary due to different rankings of desired expenditures and also due to different expenditures being "essential" rather than discretionary.

In the eyes of the general public, universality has come to mean the widespread availability of basic telephone service at affordable prices. It should be made clear, however, that 100% penetration levels cannot be expected. There are, and presumably will continue to be, individuals who, for non-economic reasons, choose not to subscribe to telephone service.

These people either do not need or do not desire a telephone in their home. The telecommunications needs of such individuals may be met by the availability of a nearby neighbour's/friend's telephone or through the use of an easily accessible coin telephone.

The Statistics Canada figures for May 1985 show that 98.2% of Canadian households have telephone service, with provincial figures ranging from 94.9% in Newfoundland to 99.0% in Ontario (see Appendix VII). Manitoba's penetration of 97.2% falls in the mid-range for Canadian provinces. It should be noted by comparison that in the United States the FCC views 92% subscribership as universality. It has generally been accepted that universal service exists in Canada.

Although the average telephone penetration rate in Manitoba and in other parts of North America is quite high, there is, not surprisingly, a lower penetration rate for households with lower incomes. A study by the Manitoba Anti-Poverty Organization (MAPO) indicated that among those with incomes below $5,000, only about 67% have telephones. National data indicate service penetration of 90% for those with incomes under $6,000 per year. In the United States, those households on food stamps are in the 68-69% penetration range.

At the February 1986 hearing, Dr. Cooper suggested that lump sum up-front costs be reduced, that installation charges be spread over a two-year period without interest, and that lifeline rates eventually be equal to 50% of non-lifeline rates. In its decision, the Manitoba P.U.B. directed MTS to review its installation charge policy and consider whether billing installation charges in two or three installments was an appropriate rate alternative. Subsequently, MTS has proposed an installment payment plan. Other Canadian telcos have either instituted or are reviewing similar plans.

Dr. Ryant expressed the opinion that the telephone is needed for social integration. He listed various groups of low income people who he felt could be classified as being eligible for lifeline service. Dr. Ryant also stated that in establishing financial aid requirements for low income households, governments have not established telephone service as a necessity. He did express the opinion that the need for lifeline service in the United States is greater than the need in Manitoba.

In the United States, where basic local service is much more expensive than similar service in Canada, lifeline service has been introduced in some states. Lifeline service has not been introduced in Canada.

With the increasing competition in the telephone industry in various jurisdictions, a requirement to more closely associate rates with costs has been identified by several Canadian telcos. If this were to occur there would be decreases in toll rates with commensurate increases in local rates required. Such price changes, through competition, rate balancing, or both, could in the consultant's view have an adverse effect on universality of telephone service. The extent of the threat to universality will depend on the timing and magnitude of local rate increases.

Extended Area Service (EAS)

In the last MTS rate case proceeding, there was considerable discussion about the provision of Extended Area Service (EAS, whereby customers in one exchange are permitted to call customers in another exchange without incurring the toll charges normally associated with such an interexchange call.

Mr. Fritz of the Manitoba Telephone System agreed with Mr. Heibert that Manitoba is in somewhat of a unique situation in comparison to many of the other Telecom Canada members because the distribution of the population in Manitoba is quite different than the other provinces because Manitoba has roughly 59% of its population concentrated in Winnipeg.

Mr. Heibert put forth, in talking about the situation in the St. Francois Xavier exchange, the opinion that "M.T.S. policies regarding establishing long distance rates and creating an EAS disregard the financial burden they place on our residents." He also stated, "We pay more and get less than larger centres for equal or comparable service levels". The data in Appendix V support part of

Mr. Heibert's contention, namely that rural customers have higher bills for their combined local and long distance calling than do the average customers in larger exchanges. The analysis in Appendix VI provides a more complete picture of the financial impact on MTS of providing service in the smaller exchanges such as St. François Xavier as compared to the impact of providing service in the larger exchanges. The data in Appendix VIII provide information on the long distance calling patterns by exchange grouping in Manitoba.

As is referred to on p. 993 of Volume III of the transcript of the recent hearing, in 1983, John S. Plohman, then Minister of M.T.S., said, "M.T.S. operates on the principle that local toll-free exchange areas should accommodate most communications needs, with those calling greater distances paying for such service as required. Most Manitobans would find toll-free calling with Winnipeg a benefit, since it is the commercial and government centre of the province. However, such a situation would be inordinately expensive to put in place and would produce costs that would be unfair to those who make few calls outside of their local areas".

The following criteria which must apply in order for two exchanges to be considered for EAS, have been identified by the MTS:

1. Request for EAS must be on file.
2. Requesting community must be in rate group 1, 2 or 3 with top consideration being given to those in the lowest rate group.
3. A minimum of 70% of subscribers must place at least 1 call to the requested exchange area in a test month.
4. Maximum allowable distance between exchanges is 40 kilometers (25 miles), except in remote/isolated situations where hardship can be shown.
5. Called exchange must not be greater than rate group 6. (This excludes Brandon and Winnipeg).
6. Calling and called exchange areas must be adjacent.
7. The easiest to implement, of otherwise equally qualifying cross-sections, will be selected.

It should be noted that when an exchange receives EAS with another exchange all customers receive EAS on a point to point two-direction basis. When a requesting exchange receives EAS with a requested exchange, both exchanges take on the Rate Group of the combined total of total telephone numbers within both exchanges. The Rate Group might change for both exchanges.

In Mr. Fritz's testimony on EAS, the evolution of EAS in Manitoba and a description of some of the issues associated with EAS were set forth. He identified the MTS objective of introducing EAS with other planned upgrading of switching and transmission facilities. He also described the cost of providing EAS linking Winnipeg to surrounding exchanges.

In Appendix IX are descriptions of the EAS offerings in other Canadian companies. These descriptions also address alternatives to EAS, such as Dialpac in Saskatchewan, Contac and Selectel in Bell Canada, and Callpak and Complan in New Brunswick. All of these plans provide methods of handling long distance traffic at discounted rates in order to meet EAS-type needs. A comparison of criteria for offering EAS shows that the current criteria for obtaining EAS in Manitoba are more restrictive than those for other Canadian telcos. However, the price to subscribers of EAS, once it has been obtained, is low when compared to the price to subscribers of EAS in other provinces.

Customers prefer to communicate at lower subsidized local rates than at higher toll rates. This leads to the demand for EAS by customers. However, the granting of EAS causes a decline in contribution from toll revenues and an increase in capital costs as facilities must be provided to handle the additional interexchange (EAS) traffic caused by lower costs for the customer. This double impact on the finances of the telephone company requires the telephone company to obtain revenues elsewhere to meet its financial commitments.

4. ASSESSMENT

The main objective of a rate structure is to produce sufficient revenues to meet the financial requirements of a company. In the MTS case this is not being accomplished. Not only are the current rate levels below the requirements for financial self sufficiency, but the continuing application of the current rate philosophies will make it increasingly difficult to obtain adequate revenues in the future. The application of these philosophies has resulted in Manitoba having the lowest rates for local service and intra-province message toll amongst the telco members of Telecom Canada.

Based on the cost estimates provided by MTS it appears that MTS has a major revenue shortfall in local service and a minimal surplus in intra-province message toll and telephone terminal equipment. While part of the recovery of this shortfall is made up by small surpluses in intra-province toll services and telephone terminal equipment, most of the contribution revenue required to support the low rates for local service and to recover the common costs of MTS comes from out-of-province toll revenues. As previously indicated the category of out-of-province toll has a cost of $.29 to earn $1.00 of revenue. In other words, each $1.00 of revenue provides $.71 in contribution.

As outlined previously in the Situation Analysis dealing with competition, there is pressure on the federally regulated carriers to reduce rates associated with MTS/WATS services. These reductions will not only be for intra services but will likely include Telecom Canada rates. This will create significant pressures from the business community and the public at large for non-federally regulated members to follow suit. However, even if other members retain their existing rates, the reduction in revenues caused by the lowering of rates by the two largest Telecom Canada members will have an effect on the total Telecom Canada settlement and each member's share. While the timing of the competitive inroads and the associated rate reductions is debatable, the final result would appear to be inevitable, i.e. a reduction in the total settled

revenues accruing to MTS and accordingly a decrease in contribution. This would be a particularly acute problem in Manitoba due to the relatively high dependence on these revenues compared to the situation for other Telecom Canada telco members. Approximately 30% of MTS revenues are from inter-province services and the net income from these services contributes over 65% of the funds required to recover the local service shortfall and common costs.

In order to remain viable, MTS must look to the services it controls to correct the current financial difficulties and to replace the contribution revenues that are expected to be lost from out-of-province services in a more competitive telecommunications environment. The three major service categories which fit this definition are telephone terminal equipment, intra-province toll services and local service. Of these, only intra-province toll and local service would appear capable of generating any significant amounts of increased revenues.

Telephone Terminal Equipment Market

While MTS rates for standard extension and premium telephones appear reasonable, there may still be some latitude for contribution maximization through price increases to these discretionary services. This assessment is based on a comparison with rates charged by other Canadian telcos for similar services.

The MTS philosophy in the provisioning of enhanced services is that expansion and modernization of facilities are carried out for the purposes of service improvement and operational efficiency and that capability for enhanced services is a by-product of this new technology. Given the low additional cost of providing these enhanced services, it is the consultant's view that prevailing MTS rates for Touch Tone and Custom Calling Services make a positive contribution to MTS' bottom line. However, the consultant believes that these services could make an even greater contribution if they were subjected to price increases.

Although exact comparisons are not possible due to different costs and rate structures in the two companies, examination of MTS rates and Bell Canada costs and rates, together with the fact that Bell Canada is required by its regulator to demonstrate that its rates are compensatory, leads the consultant to conclude that the rates charged by MTS for hybrid key and PBX systems and for Centrex 5 are generally compensatory.

It is the consultant's opinion that, in preparation for potential competition in the terminal market, MTS should review its rate structures for new technology hybrid key and PBX systems. Pricing options aimed at recovering capital on an individual customer basis, instead of the current recovery of capital on a service or portfolio basis, should be considered. In the same vein of reducing financial exposure, the consultant recommends that MTS service charges for new technology hybrid key and PBX systems be assessed with the objective of attempting to recover more of the installation costs and service order costs.

The consultant feels that, in addition to the above rate restructuring recommendations, MTS should be able to generate increased revenues by raising the rate levels for older technology key and PBX systems in a moderate manner, that is, at or slightly above the prevailing rate of inflation. Based on comparisons with similar services offered by Bell Canada, it is the consultant's view that the Engineered BCS rates should be increased. Such rating action will improve the overall contribution from the terminal category. It is the consultant's view that MTS rates for its Centrex 5 offering are at a reasonable level.

Intra-Province Toll Services

MTS rates for intra-province toll services are the lowest in Canada. Rates in other provinces range from 28% to 116% higher than MTS rates. Raising MTS rates by approximately 30% could increase revenues by approximately $18M and still result in Manitoba having the lowest overall intra-provincial rates in Canada. While an increase of this magnitude could have reverberating effects, a

movement toward higher rates for intra-province toll could be combined with other plans such as EAS-type services for non discretionary calling and compression of mileage steps to better reflect revenue/cost relationships by distance. Competition in intra-province toll services is not expected to emerge in the near future and even with sizable percentage increases in current levels, the resulting rates would still likely be reasonably competitive, especially considering the demographics of Manitoba.

Local Service

The main pricing problem facing MTS and the other Canadian telcos is the severe revenue shortfall in providing local services. While there is some revenue potential available from intra-province toll services and the terminal market, the main avenue for additional revenues for MTS will be higher rates for local service. As illustrated in the Situation Analysis, there is a wide disparity in contribution levels on an average terminating line basis between the metropolitan and rural exchanges. While pressures have been brought to bear to reduce the rates for non-metropolitan subscribers, analysis has shown that non-metropolitan areas are the source of greater losses than the metropolitan areas because of the greater cost of providing service. While higher local rates in larger centres may be acceptable for value of service reasons, the rates do not recognize the higher costs on a per line basis of providing service in smaller centres. It would appear that non-metropolitan subscribers should assume at least an equal share in absolute dollar terms of any local rate increases. The current price gap of up to 68% between rate groups should be narrowed with future rate increases.

As business primary service rates are considerably below similar rates in other major Canadian telcos, these rates can be increased to obtain additional revenues. However, as illustrated in Appendix VI, business subscribers are now shouldering the major contribution. This is due in part to the wide differential between business and residence primary service rates. While the consultant feels that

this gap should be narrowed, the current financial plight allows little opportunity to alleviate this situation in the short term. However, it is recommended that the current percentage differential between residence and business rates not be increased and that the long term objective should be to reduce the differential.

Universality

Based on North American standards, telephone service in Manitoba is virtually universal. In Manitoba, basic local service rates are currently amongst the lowest in Canada, making service affordable and accessible for the vast majority of households. It is unlikely that less expensive local service would lead to any appreciably higher penetration levels. The consultant feels that increases bringing rates to the levels of those in other provinces would not signficantly affect penetration.

Rate increases for local service of the magnitude that may be required in the future could have an effect on universality. Therefore, long range rate planning activities will have to include an assessment of the effects of rate changes on universal telephone service in Manitoba, in particular on residents of Manitoba in lower income groups.

Options available to maintain penetration levels include gradual local rate increases and targetted subsidies. If, in real terms, local rates are increased gradually, there may be no need for special plans.

Targetted subsidies through vehicles such as lifeline service create new issues and implications in terms of service options, eligibility criteria and funding options. A lifeline service could offer reductions in installation charges and/or monthly rates. It could be targetted to various socio-economic groups such as the elderly or those with net annual incomes under $5,000.

In order to reduce administrative costs for the telephone company, the preferred method to determine eligibility for a subsidy would be to use lists of people receiving financial assistance through existing government programs.

It should be noted that introduction of a lifeline-type service in Manitoba would appear to require financial support from a source other than MTS. In a letter to MAPO on July 4, 1985, The Honourable Al Mackling, Minister responsible for the Manitoba Telephone System stated, "However, as the Manitoba Telephone System does not have a mandate as a social allowance agency, nor is it equipped to be one, it would appear that the special needs of welfare recipients are not properly under my authority."

In summary, current Manitoba Telephone System basic local service rates do not appear to be a serious obstacle with regard to universality. Rates and penetration levels in other parts of Canada would indicate that fairly significant increases would be possible for local service without seriously affecting penetration levels in Manitoba. Introduction of a lifeline service at this point in time would not appear to be warranted.

However if the local service rate levels were to increase significantly, to such an extent that universal service were threatened, the Government would have to determine a source of funds to maintain the desired universality. MTS should be prepared to assist in the development and implementation of a suitable method of ensuring the universal accessibility of telephone service as required by its mandate.

Extended Area Service

Considerable pressures exist in Manitoba to provide additional Extended Area Service, especially with Winnipeg and Brandon. The long distance calling patterns in Appendix VIII indicate a high percentage of intra-province toll traffic going to Winnipeg and

Brandon. For those exchanges adjacent to Winnipeg and Brandon this concentration is especially high, explaining the demand in these areas for EAS. However, such expansion of EAS would be very expensive to MTS in terms of lost toll revenue and increased capital expenditure. Also, the people of Winnipeg and Brandon might not generally accept higher rates for their local service so that they can have EAS with areas on the outskirts of their metropolitan areas. With the likely decline in the ability of inter toll traffic to subsidize local services, expansion of EAS under existing terms will only add to the System's financial burden.

There are various options open to MTS to ease the burden of future EAS expansions. EAS could be provided on a breakeven basis. Weighting factors could be established for the telephone count to recognize the distance between exchanges and thus be more reflective of the cost of providing service between the two exchanges (including the cost of lost toll revenue). This would result in significant increases to rate levels for exchanges with EAS and thus would increase local revenues. The problem with this solution is that customers not benefiting from EAS would be paying higher rates to subsidize customers with high volume calling requirements between the exchanges linked by the added EAS capability.

A second option is to provide alternatives to EAS such as the Dialpac service offered by Sask Tel or the Selectel service offered by Bell Canada (see Appendix IX). These services provide discounts to heavy toll users between eligible exchanges. Again, this lost toll revenue must be made up elsewhere.

A third method of reducing the cost of EAS expansions is to put a freeze on such expansions. A service such as Contac (see Appendix IX), offered by Bell Canada, could be established, if required, to meet the need to access essential services currently only accessible by long distance.

With the current financial situation and rate structure of the Manitoba Telephone System, it is the consultant's view that the last approach of putting a freeze on EAS expansion and introducing a Contac-type service would appear to be most appropriate.

5. SUMMARY OF MAJOR CONCLUSIONS AND OTHER FINDINGS

The following highlights the consultant's conclusions and recommendations arising from an independent review of Manitoba Telephone System rating objectives, principles, and tariffs:

Major Conclusions

1. The Manitoba Telephone System is not meeting its corporate mission of being financially self-sufficient.

2. The dependence of MTS on contribution from services provided outside the province must be changed as contribution from inter-province long distance service cannot be sustained in the longer term.

3. Manitoba local and intra-province toll rates are amongst the lowest of any major telephone company in Canada. Future revenue requirement needs must be generated primarily from increases in local service rates. Intra-province toll is a potential source of some additional revenue, as is the terminal market to an even lesser degree.

4. Extended Area Service should not be expanded, especially given the current financial situation of MTS.

5. Lifeline service is not required at the present time and may not be required if local rates are maintained within Canadian norms.

Other Findings

1. In order to prepare itself for potential competition, MTS should assess the need to restructure rates for hybrid key and PBX systems to recover capital on an individual customer basis.

2. There appears to be potential for increased revenues by raising rates for older technology key and PBX systems, for Engineered BCS, for extension and premium telephones, and for enhanced services (Custom Calling Services and Touch Tone).

3. In setting local rates, MTS should be prepared to raise rates for lower rate groups by the same dollar amount as rates for higher rate groups.

4. In the long term, the percentage differential between residence and business rates should be reduced.

5. For intra-province toll, mileage steps should be compressed to better reflect revenue/cost relationships by distance.

6. If lifeline service is required in the future, determination must be made as to who is responsible for the method of funding and for the criteria of eligibility.

7. As an alternative to EAS, a service such as Contac could be used to reduce the price for the subscriber to access essential services. If this is not deemed to be sufficient to alleviate pressures, the consultant believes that optional calling plans would be a less costly alternative to satisfy these needs than full two-way EAS.

APPENDIX

NOT FILMED